

REMARKS

Claims 14 and 43-61 are pending in the application. Claims 1-13 and 15-42 have been cancelled without prejudice. Claim 14 has been amended. New claims 43-61 have been added. The specification has been amended to add sequence identifiers for sequences depicted in the figures and to capitalize several terms. The title and abstract of the application have been amended to reflect the subject matter of the pending claims. Support for the amendments and new claims can be found in the specification at, e.g., page 10, line 1, to page 11, line 13, and page 28, line 8, to page 36, line 19. No new matter has been added.

Restriction Requirement

In response to the requirement for restriction, applicants elect the invention of Group II, drawn to the embodiment of claim 14. This is a confirmation of the election made in the telephone conversation with the Examiner on March 8, 2006.

Sequence Disclosure Rule Compliance

Enclosed is a copy of the request under 37 C.F.R. §1.821(e) filed with the present application on March 24, 2004 to transfer the computer readable form of the Sequence Listing filed in U.S. Serial No. 09/372,380. Also enclosed are copies of the following submissions made in U.S. Serial No. 09/372,380: a paper copy of the Sequence Listing as required under 37 C.F.R. § 1.823(a); and a verified statement under 37 C.F.R. §1.821(f). Applicants submit that the enclosures fulfill the requirements under 37 C.F.R. §1.821-1825.

The Brief Description of the Drawings for Fig. 5B and Fig. 5C has been amended to recite SEQ ID NOs for the sequences disclosed in these figures. Upon a diligent search, applicants have been unable to identify any sequences other than SEQ ID NOS 1 and 2 that should be presented in a Sequence Listing. Applicants would be grateful if the Examiner could identify the location of any additional sequences by page and line number.

Drawings

At page 6 of the Office Action, the Examiner objected to the drawings because the replacement drawings filed on July 6, 2004 did not have the header "Replacement Sheet" on each amended sheet and changes to the drawings were not been explained in detail. In response to the objection, drawings having the words "Replacement Sheet" marked thereon are enclosed with the present response. These replacement sheets were provided merely to comply with the requirement for submission of replacement drawings that are free from erasures, alterations, overwriting, interlineations, folds, and copy marks (see Notice to File Corrected Application Papers dated May 18, 2004). The replacement drawings differ from those that were originally filed only in that they overcome these formal deficiencies. No substantive amendments to the drawings have been made.

Specification

At page 6 of the Office Action, the Examiner asserted that the title is not descriptive of the pending claims and requested that a new title be provided. In response to this objection, the title has been amended to "METHODS FOR GENERATING LIGAND PROFILES FOR CELLS."

At pages 6-7 of the Office Action, the Examiner asserted that the abstract is not descriptive of the pending claims and requested that a new abstract be provided. In response to this objection, a new abstract has been provided that reflects the subject matter of the claimed methods.

At page 7 of the Office Action, the Examiner requested that several terms in the specification be capitalized. The specification has been amended to comply with this request.

In view of the foregoing amendments, applicants request that the Examiner withdraw the objections to the specification.

35 U.S.C. § 112, Second Paragraph (Indefiniteness)

At pages 7-8 of the Office Action, claim 14 was rejected as allegedly indefinite in its recitation of the phrase “a ligand profile” (singular) in the preamble of the claim. The claim has been amended to recite “ligand profiles” (plural) and thus reflect the “first profile” and the “second profile” recited in step (e) of the claim. In view of this amendment, applicants request that the Examiner withdraw the rejection.

35 U.S.C. § 102(b) (Anticipation)

At pages 8-9 of the Office Action, claim 14 was rejected as allegedly anticipated by Chicz et al. (1994) Immunology Today 15:155-60 (“Chicz”).

Applicants respectfully traverse the rejection in view of the following comments.

Claim 14 is directed to a method of generating ligand profiles for a given type of cell based upon characterization of polypeptide ligands bound to each of a first type of multi-ligand binding receptor (e.g., a first MHC class I or MHC class II receptor) and a second type of multi-ligand binding receptor (e.g., a second MHC class I or MHC class II receptor). Step (e) of the method entails generating a first profile that distinguishes among the ligands that were bound to the first type of multi-ligand binding receptor and a second profile that distinguishes among the ligands that were bound to the second type of multi-ligand binding receptor. The claimed method thus requires the generation of at least two ligand profiles based upon the binding of ligands to two distinct multi-ligand binding receptors.

Chicz describes a serial epitope-detection system (“SEDS”) for the purification and analysis of naturally processed peptides bound to MHC molecules. Chicz describes 8 steps of the SEDS in Box 2 at page 158. Several of the steps are of particular relevance for this analysis:

step 2: immunoaffinity chromatography using monoclonal antibodies against one or more different MHC molecules and the subsequent elution of bound MHC molecules

step 4: extraction of peptides from purified MHC molecules

steps 6, 7, and 8: analysis the eluted peptides (this analysis can be used to identify and characterize peptide species derived from pathogen source proteins)

Chicz does not describe the generation of two profiles based upon the binding of peptide ligands to two distinct MHC molecules. Instead, as noted in step 6 of Chicz (in Box 2), "a size-distribution profile for the entire peptide pool" is determined (emphasis added). No distinction is made by Chicz between peptides binding to individual MHC molecules. In those instances where more than one type of MHC molecule is isolated in step 2, Chicz does not describe generating multiple profiles based upon analyses of peptide fractions associated with separate MHC molecules (rather, the peptides are pooled and collectively analyzed). Because Chicz does not describe the generation of a "first profile" and a "second profile" of peptides binding to distinct MHC molecules, the reference does not anticipate the method of claim 14.

In view of the foregoing comments, applicants request that the Examiner withdraw the rejection.

CONCLUSIONS

Applicants submit that all grounds for rejection have been overcome and that all claims are in condition for allowance, which action is requested.

Enclosed is a Petition for Three Month Extension of Time. Please apply any charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 08191-008004.

Respectfully submitted,

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